# 2005 R-1 SMOKEJUMPER USER GUIDE


## MISSION

Smokejumpers provide an initial and extended attack resource. When available, smokejumpers provide assistance with prescribed fire, resource management, and rescue.

## VISION

We are committed to taking the Smokejumper program into the future while preserving traditional values of safety, professionalism, and integrity through leading by example. This will allow us to utilize the skills acquired from the program and integrate them into our future aspirations, helping to improve our communities and ourselves.

## PURPOSE OF THIS GUIDE

The purpose of this guide is to provide fire managers and dispatchers with operational information about the R-1 smokejumper program. By outlining the operational procedures and capabilities of our program, we hope to increase the effectiveness and safety of any smokejumper operations that take place on your unit. For more information contact:

Missoula Smokejumper Operations……..(406) 329-4896
Grangeville Smokejumper Operations……..(208) 983-1964
West Yellowstone Smokejumper Operations: (summer)…(406) 646-7691
(winter)…..(406) 587-6716

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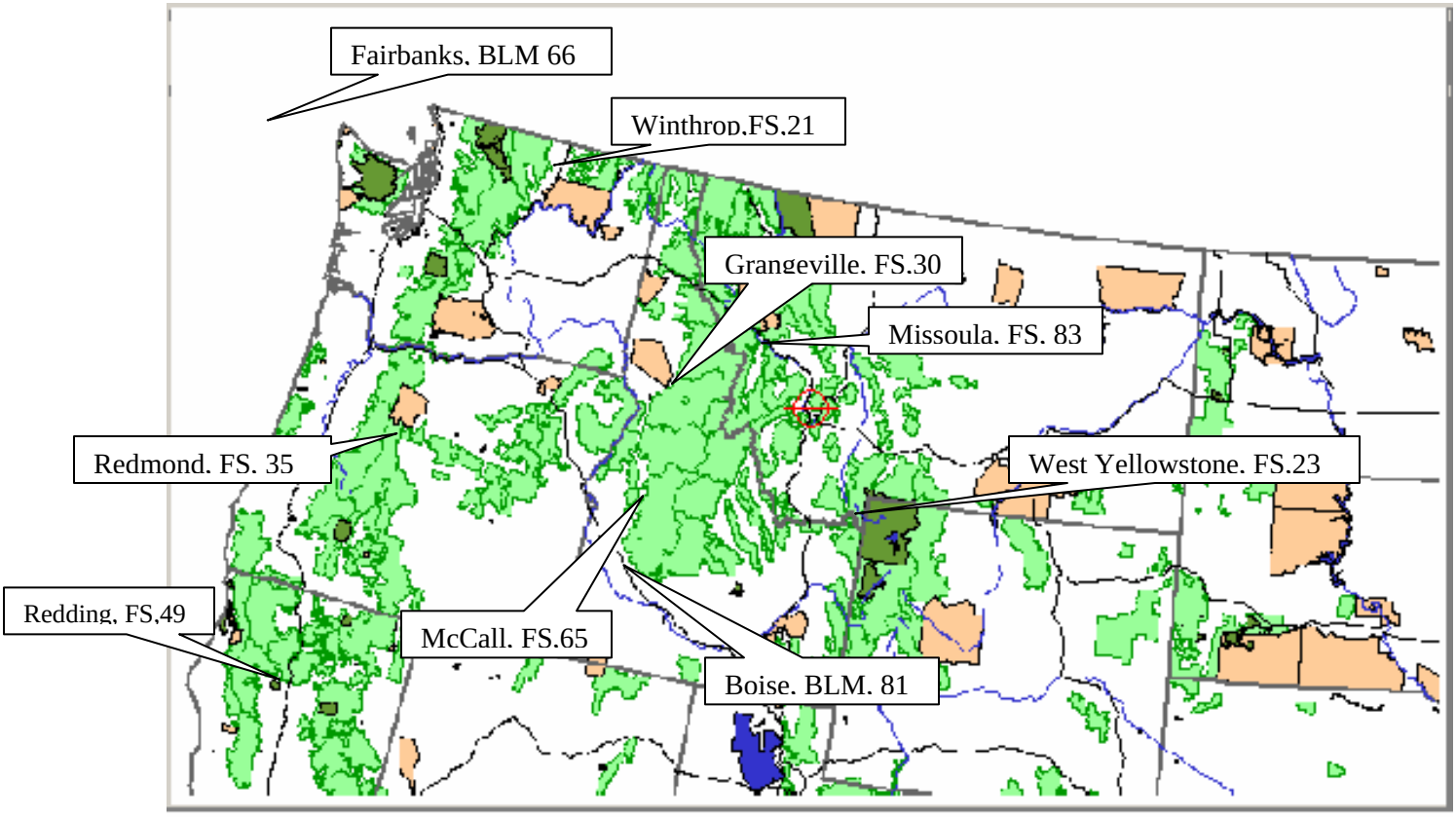
# PROGRAM OVERVIEW

***HOME BASES*** **–** There are 455 smokejumpers (305 USFS and 150 BLM) stationed at various bases throughout the western US. Locations of bases, numbers of jumpers, and agency affiliations are shown below.

***MOBILITY*** – Smokejumpers are a highly mobile nationally shared resource. The decision to order jumpers should be based solely on need, not on source, location or perceived availability of the jumpers.

- **BOOSTER CREWS** – The highly mobile nature of jumping makes it easy for Smokejumpers to reinforce other bases that are busy.
- **SPIKE BASES** – Jumpers may be stationed temporarily at almost any airport as a spike base operation.
- **PRESCRIBED FIRE AND PROJECT WORK** – When not committed to suppression, jumpers are available to assist on prescribed fire projects anywhere in the nation.



# EFFECTIVE UTILIZATION

***INITIAL ATTACK FIRES*** – Smokejumpers are very effective when used to initial attack new fires. They usually travel to wildfires by high-speed aircraft and parachute, but can also be deployed as ground or helicopter based initial attack modules. Using jumpers as part of an initial attack strategy can greatly increase a fire managers options. It is recommended that Fire Preparedness Plans identify "trigger points" for ordering smokejumpers. Jumpers can be used effectively for initial attack when expected or reported fires are:

- **REMOTE FIRES** – In wilderness, roadless areas, or areas too remote for local forces to reach in a timely manner.

- **NUMEROUS SMALL FIRES** – Locations may range from remote to urban interface. Regardless of location, local forces may be spread too thin and need reinforcement.

- **FIRES WITH HIGH SPREAD POTENTIAL** – To help prevent escape, jumpers can be used as high speed initial attack reinforcements.

***EMERGING AND EXTENDED ATTACK FIRES –*** Smokejumpers are very effective when a fire is transitioning from initial attack to a type three incident or when a fire is going into extended attack and an overhead team has been ordered.

- **EXTENDED ATTACK FIRES** – Smokejumpers can be used in the extended attack mode on escaped fires. One night shift, when fire intensity is usually lower, can make the difference in whether or not a fire becomes project size. If an escaped fire is already project size, then jumpers can be a valuable resource to establish an anchor point and initiate suppression action prior to the arrival of an incident management team. When the team arrives, the jumpers can provide valuable fire intelligence.

- **EMERGING FIRES** – Smokejumpers are especially effective when a fire is transitioning from initial attack to a type three incident. All smokejumper loads have at least one ICT3 and usually two DIVS as well as STCR, TFLD and other assorted ICS positions available. This team can be delivered very quickly and is self-sufficient for up to three days. In fuel types that have high rates of spread and that extinguish rapidly this can usually prevent the need to order a type two team. In other situations, ordering jumpers will allow time to fill orders for a type two incident management team through the normal dispatch system.

***PROJECT FIRES* –** When initial attack and extended attack are less of a priority, jumpers often participate on project fires.

- **TYPE 1 CREW** – Jumpers can serve as 20 person Type I Crews. They can travel self-contained with their own crew vehicles, chainsaws and radios.

- **OVERHEAD** – Division Sup, Strike Team Leader, and Task Force Leaders are all positions often filled by jumpers. Other positions include Air Tactical Sup, Air Ops, Ops Chief, and various unit leaders.

- **HELISPOT CONSTRUCTION** – Jumpers are often a good resource for constructing helispots in remote locations on project fires.

- **POINT PROTECTION –** Jumpers can be used on large fires to protect critical points where extra efforts are needed.

***PARACARGO*** – Smokejumpers and smokejumper aircraft can be used to re-supply fires and general projects by paracargo. Fixed wing aircraft have large pay loads ranging from 3,000 to 6,000 pounds.

- **REMOTE FIRES** – Pumps, hose, and other supplies can be delivered by paracargo direct from the fire cache in a timely manner. One flight can be made daily to re-supply several remote fires with food, water, and other needed supplies.

- **PROJECT FIRES** – Spike camps can be re-supplied by paracargo.

- **GENERAL PROJECTS** – Equipment and supplies can be delivered by paracargo.

***SPIKE BASES & PRE-POSITIONING*** – Spike bases are established in the geographic area close to the action for quick responcse time. Strategically pre-positioning jumpers should be considered when a high level of fire activity is predicted; e.g. severe lightning. Requests can originate from any unit and are handled through normal dispatch channels. Regional and national coordinators will determine if pre-positioning is practical given the current fire situation.

- **WHEN** – To maximize effectiveness, fire managers must make timely requests. Fire preparedness plans should indicate when pre-positioning is a consideration.
- **DURATION** – Spike bases can be established for a one-day need or for several weeks.
- **AIRPORT FACILITIES** – Airports suitable for pre-positioning are listed under, Aircraft Capabilities. For extended operations, basic sanitation, some storage space, and room for a packing table are needed. Folding conference tables sent from the smokejumper home base or obtained from the local unit can be used for

packing tables. The smokejumper home base can provide a cell phone if a standard phone is not available. A spike base can generally be in place within an hour or two.

- **SUPERVISION & COORDINATION** – The smokejumper unit is responsible for staffing spike bases with appropriate overhead for the operation. Overhead coordinate base needs with the dispatcher, local fire manager, and home base operations desk. For a one-day stand-by situation, the smokejumper spotter aboard the aircraft is sufficient. For an extended operation, a designated spike base manager will be provided.
- **TRAVEL AND PER DIEM** – The local unit must cover costs. As it is a fire assignment, full rate per-diem is appropriate. Note: severity funds may be available through the WO for your forest to cover these costs.
- **SUPPORT VEHICLES** – The smokejumper home base or local unit can provide vehicles for jumper retrieval from fires and for daily travel to and from work.
- **RESUPPLY** – Fire packs and supplies can be driven or flown from the home base.
- **BOOSTER CREWS** – As a national resource, smokejumpers from other locations can reinforce any spike base.
- **PROJECT WORK** – Smokejumpers are available for project work when not committed to fire assignments or on stand-by.

***PRESCRIBED FIRE*** – When available, jumpers provide assistance with prescribed burn planning, site preparation, and implementation. The established coordination system determines priorities for suppression and prescribed fire resources. Requests for assistance during the suppression season should be handled through dispatch channels. Contacting smokejumper operations directly can facilitate pre-planning. During the off-season, requests can be made direct to the smokejumper fuels and projects manager desk.

- **DURATION** – During the suppression season, jumpers can be made available for short or long-term assignments. During the off-season, they can be employed as needed. Several options are listed under "Ordering"
- **SITE PREP** – Smokejumpers are an excellent resource for mechanical treatment of fuels prior to ignition. Many jumpers are C or B certified sawyers.
- **IGNITION & HOLDING** – Jumpers can provide reliable holding crews. Many are ignition specialists and some have burn boss qualifications.
- **OTHER SKILLS** – Several jumpers have developed skills applicable to NEPA planning, burn plan writing, data collection, etc.
- **TRAVEL AND PER DIEM** – the local unit must cover Costs. Note: There may be regional funding made available for per diem to utilize smokejumpers on prescribed fire projects.
- **SUPPORT VEHICLES** - The smokejumper home base or local unit can provide vehicles for jumper retrieval from fires and for daily travel to and from work.

- **SUPPRESSION READINESS** – If suppression becomes the priority, the jumpers can be activated quickly. An aircraft with all equipment and jump gear required can be sent to meet the jumpers at the nearest airport.

***RESCUE & INJURY PROTOCAL*** – Many smokejumpers are EMT's, able to parachute into accident sites, render first aid, and evacuate the accident victims. Smokejumpers are capable of providing emergency medical services for injured personnel. Each smokejumper aircraft carries EMS personnel and a complete medical trauma kit and satellite phone all deliverable by paracargo to the accident scene. The satellite phone is used to communicate with the St. Patrick Hospital emergency room. The local dispatch center will coordinate the evacuation of the victim by Life Flight, local helicopter or ambulance. Rescue missions for public citizens must be routed through county sheriff departments and the dispatch coordination system.

***MISCELLLANEOUS PROJECT WORK*** – Smokejumpers assist with labor-intensive projects from trail maintenance, brush disposal and tree thinning to cone picking, and timber cruising. They also participate in special projects that take advantage of individual smokejumper talents.

## *JUMP REQUESTS*

During the suppression season, jumpers maintain a high state of readiness. Jumpers are available for immediate dispatch. Seven-day coverage is provided using a split crew workweek and the normal duty day ends at 1800.

- **COORDINATION AND DISPATCH CENTERS** – Coordination centers set priorities for jumpers in consultation with fire managers,. Coordination centers and dispatchers coordinate the movement of jumpers and report their status and availability daily.
- **OPERATIONS** – Smokejumper operations work closely with coordination centers and dispatchers. They track the movement of all jumpers in the field and are responsible for briefing jumpers, spotters, and pilots and makes daily work assignments. They coordinate jumper re-supply and retrieval as well as collecting and reviewing dispatch requests, spotter reports, fire reports, and time reports. Operations also handles the logistical needs of additional jumpers, coordinates project work assignments, and assists with jumper demobilization.
- **SPOTTER** – Each aircraft is assigned a spotter at the beginning of the day. Large aircraft have two spotters assigned. The spotter makes sure that the aircraft is loaded with all necessary mission equipment and supplies. The spotter directs the smokejumper mission and communicates with appropriate dispatchers for mission coordination and flight following.

***FIRE CALL*** – In order to expedite take off, notification by the user of a pending fire call is highly desirable. When a jump request is received from dispatch, operations

notifies the jumpers and the jumpers suit up. The pilot preps the aircraft and starts the right engine. The spotter plots the location of the fire on a map and the pilots enter the location into their GPS and estimate time en route. The only information needed to launch the jump ship is the location of the fire. The following information is needed on the request or can be given during taxi or in air.

- **FIRE NAME** – size and number ordered.
- **FIRE LOCATION** – by lat & long or radial and distance from airport.
- **DISPATCH FREQUENCY** – of requesting office.
- **AIR-TO-AIR FREQUENCY** – and call signs of other aircraft at fire or ETA's; and status of military routes

***TAKE OFF*** – Roughly 10 – 20 minutes elapse from the time of a fire call to when the jump ship is airborne. After takeoff, the spotter contacts the local dispatcher to report:

- **JUMP SHIP CALL SIGN**
- **TIME OF TAKE OFF**
- **NUMBER OF JUMPERS ON BOARD**
- **DESTINATION AND ESTIMATED TIME EN ROUTE**

***FLIGHT TO THE FIRE*** – Every 15 minutes the aircraft travels 40-50 miles and a flight following check is made. All Region 1 Smokejumper aircraft are equipped with automated flight following and can be tracked at www.aff.gov web site. As soon as possible the spotter makes contact with the requesting dispatch. This can happen quickly if the fire is nearby or if a repeater channel can be accessed. The spotter will make sure flight following is closed out with the sending dispatch. Flight-following checks then commence with the requesting dispatch. Additional fire information can be relayed to the spotter from the requesting dispatch.

- **GROUND CONTACT** – and frequency.
- **FIRE INFORMANTION** – including size, fuel type, and fire behavior.
- **STRATAGY** – and suppression objectives.
- **MANAGEMENT CONCERNS** – in addition to suppression objectives.

***TEN MINUTES OUT*** – When the jump ship is 10 minutes from the fire, the spotter will contact other aircraft at the fire site. All aircraft working the fire exchange information regarding location, altitude, ETA, ETD, type of operation underway, etc. The spotter will also call the ground contact (if applicable) and let them know the ETA of the jump ship.

***ARRIVAL AT THE FIRE*** – Upon arrival, the jump ship orbits the fire while the spotter contacts the requesting dispatch and the ground contact. At this time a decision

will be made on who will act as the IC of the fire. Either the smokejumper or a local firefighter can be IC, whomever is designated by the dispatcher. The spotter then:

- **REPORTS ARRIVAL** – and confirms fire location.
- **GIVES A BRIEF SIZE UP** – and makes tactical recommendations. If local forces are already at the scene, the spotter can give the IC an assessment of the fire including direction and rate of spread, hazards, safety zones and possible escape routes. The spotter can help ground forces determine the best road access. The spotter confirms with dispatch an appropriate number of jumpers to be dropped.
- **WORKS WITH OTHER AIRCRAFT** – to help set priorities for retardant and bucket drops in areas not visible to the ground and to act as the ATGS until a fully qualified one arrives.

***JUMP SEQUENCE*** – The spotter obtains clearance from the ground contact, other aircraft, and dispatch before starting the jump phase. Non-critical communications with the jump ship should be avoided. Average time for completion is 20-30 minutes.

- **JUMPER IN CHARGE SELECTION** – The spotter selects one jumper with appropriate ICS qualifications for the complexity of the fire to be in charge of the group. The highest-ranking overhead is always responsible for the crew on a fire, but a less experienced jumper or local firefighter may serve as a trainee if approved by the ordering unit.
- **JUMP SPOT SELECTION** – The spotter and jumper in charge select a safe jump spot. The jump spot must be large enough, clear of major hazards, unaffected by turbulent winds, and in a location that makes foot travel to the fire safe. Sometimes a patch of closed canopy timber can be used if it is tall enough. The spotter will bring the aircraft in for a low pass to identify hazards in the jump spot.
- **WIND DETERMINATION** – Drift streamers are thrown from jump altitude (1500 ft.) to estimate wind speed and direction. The spotter assesses the fire and jump spot, and decides if conditions are safe for parachuting and paracargo delivery. Terrain, the fire and other hazards may require that the jump spot be moved some distance from the fire. High winds or turbulence can postpone or preclude a jump. The spotter at the scene best makes these judgments. Every effort is made to complete jumper missions safely. Even missions that result in a "dry run" can provide useful fire information to dispatch and ground forces. In these cases, the jumpers can often land at a nearby airport and wait for the winds to subside, or they can be delivered by ground transportation or helicopter. Less than 5% of jump missions cannot be safely completed by parachuting.
- **THE JUMP** – If conditions are safe, the spotter directs the pilot to fly a specific pattern around the jump spot. The spotter briefs the jumpers and makes sure each is checked and ready. On the final approach over the jump spot, the spotter gives corrections to the pilot to line up the aircraft, and then signals the smokejumpers

to exit. Smokejumpers are usually dropped in "sticks" of two at a time but may jump in one or three-person "sticks" if conditions dictate.

- **PARACARGO** – The streamer and jump phase take approximately 10 minutes. If possible, the spotter will contact dispatch to check in after the jumpers are on the ground. The spotter also alerts other aircraft that the jump ship is descending to deliver paracargo. Dispatch may lose radio contact during this phase while the aircraft makes low level (200 ft.) passes to drop fire packs, cubitainers of water, chainsaws, and other equipment. This phase also takes about 10 minutes.

***SPOTTER MISSION COMPLETION*** – The spotter re-establishes radio contact with dispatch after the aircraft regains enough altitude.

- **GIVES NAME OF THE JUMPER-IN-CHARGE** – Can report the qualifications of the jumper-in-charge if needed by dispatch.
- **GIVES NUMBER OF JUMPERS ON THE FIRE** – Also reports the number of jumpers remaining on board.
- **ENSURES JUMPER-IN-CHARGE HAS COMMUNICATION** – Either with dispatch or overhead on fire. Can serve as relay between the fire and dispatch if necessary.
- **REQUESTS FURTHER ASSIGNMENTS** – Can take "in-air-jump requests and respond to other fires. Can be directed to recon an area or land at an airport. If released, will return to base. Maintains flight following after leaving the fire area.
- **FOLLOW UP** – Spotters may contact dispatchers by phone after returning to the jump base to de-brief with them and clarify any confusion.

***JUMPER IC RESPONSIBILITIES*** – If the jumper is to act as the IC, then they will do the following.

- **FIRE SIZE UP –** Including fire behavior at head, flanks and base; smoldering, creeping, running, torching, crowning or spotting. Estimated size in acres or chains. Fuels, continuous, broken or patchy; grass, brush, re-prod, timber, downfall, slash, snags, log and duff. Adjacent fuel, continuous, broken or patchy; grass, brush, re-prod, timber, downfall, slash, snags, log and duff. Resource needs, retardant, personnel, etc. Estimated time of control. As needed, wind speed and direction, position on slope, aspect, percent of slope and elevation.

- **FIRE COMPLEXITY ANALYSIS –** In conjunction with the dispatch center.

- **DETERMINES TACTICS** – Jumpers will implement appropriate tactics to meet the host unit's objectives for the fire. Standard "Minimum Impact Suppression Tactics" are used unless otherwise directed. Jumpers are experienced at using sound tactics in a wide variety of fuel types and terrain. Professional decision-making can be expected from jumpers when constructing

line, coordinating air resources, burning out, working in the urban interface or fighting fires in wilderness areas.

- **PROVIDES FOR CREW SAFETY** – In accordance with the 10 Standard Orders, 18 Situations and LCES the IC will obtain spot weather forecasts, fire behavior forecasts, and weather forecasts and brief crews as needed.
- **MONITORS DISPATCH FREQUENCY** – The jumper-in-charge monitors the dispatch frequency at all times. It is desirable to arrange pre-determined check-in times.
- **KEEPS DISPATCH APPRAISED OF SITUATION** – The IC will keep dispatch informed of significant changes in fire status such as when fire is contained, controlled, estimated time of departure, etc.

***LENGTH OF ASSIGNMENT*** – Use of jumpers on a fire is at the discretion of the requesting unit. Jumpers can be released as soon as other resources arrive or they can stay until the fire is out. However, if initial attack resources elsewhere become depleted, the local unit may be asked by the area coordinator to replace the jumpers as soon as possible. Some considerations for length of the assignment may include;

- **LOGISTICAL SUPPORT** – Jumpers can fight fire for at least 3 days without re-supply. After that, they may need re-supply either by paracargo or other means.
- **SMALL REMOTE FIRES** – Jumpers are often used until the fire is out. The spotter will usually drop enough jumpers to extinguish the fire within 48 hours or less.
- **PROJECT FIRES** – Smokejumpers can be used as 20 person Type I crews on project fires. They can also fill ICS overhead positions. All smokejumpers are expected to follow NWCG Guidelines for Length of Assignment.

***WORK REST*** – All smokejumpers will follow the current NWCG guidelines for work rest and will work with the local duty officer when it is in the best interest of safety and fire suppression to exceed 16 hours and those times that do not meet the 2:1 work rest ratio.

***DEMOBILIZATION*** – Jumper retrieval can be achieved in a number of ways and should be coordinated by the local dispatch. Transportation to the home base can be facilitated through smokejumper operations. While still on the fire, the jumper-in-charge will advise dispatch of anticipated demob time and needs. Whenever possible, jumpers prefer the opportunity to meet the dispatcher, FMO, or their representative to hand in the fireman's report, obtain timesheet approval, and debrief the fire. If this is not possible, a complete fireman's report will be mailed.

- **PACKOUT** – Jumpers can carry their gear (typically 110 pounds) to the nearest road or trail.

- **VEHICLE** – Jumpers can be picked up by vehicles driven by local or other jumper personnel. Vehicles can be provided by the local unit or by the jump base. Jumpers can be driven to the jump base or a suitable airfield for retrieval by fixed wing. Following are some estimates for vehicle needs.
  2 SMJs……pickup
  3-4 SMJs……six pack
  5-8 SMJs…….pickup and van
  9-12 SMJs……...stake side and van

- **HELICOPTER** – Helicopters can be used to ferry jumpers to the closest road or local office. The gear can also be ferried internally but a sling load is desirable for jumper cargo, especially for groups of six or more jumpers. Smokejumpers are fully qualified in helispot construction and longline operations. Many jumpers are helicopter crew member and some are manager qualified.
- **LONG LINE** – Smokejumpers can send most of their gear out by long line, then hike out to the nearest road. This is often desirable in that it does not require cutting a helispot and the jumpers can travel with a lighter load and travel a much longer distance. Jumpers are fully qualified in long-line operations
- **FIXED-WING** – CWN aircraft or a jump ship can be used to make long-range retrieval of smokejumpers.

***FIRE DEBRIEFING CHECKLIST*** – The following are topics for mission debriefings between smokejumpers and the fire managers they work for. The intent of the debriefing is to improve mission effectiveness and safety.

- COMMUNICATIONS – Between dispatch and fire, between assigned resources on fire (A/C, ground forces, etc.), and frequencies assigned.
- RESOURCES ASSIGNED – Adequacy of initial attack force, initial resources on fire (A/C, ground forces, etc.), and frequencies assigned.
- LOGISTICS & SUPPORT – Response times, problems moving personnel around on fire, supplies, food, water and equipment.
- DISPATCH – Initial briefing by dispatch, updated by dispatch (weather, spot forecasts, fuel moistures, ETA's), information flow between fire and dispatch smooth, clear, timely, and cooperative?
- TACTICS – Effectiveness, appropriate methods used (MIST, etc.).
- SAFETY – Fire activity, hazards (snags, rolling objects, airdrops, etc.), personal protective equipment (PPE), tactical considerations based on LCES, 10 Standard Orders, 18 Situations.
- DEMOBILIZATION – Personnel and equipment released at appropriate time, dispatch notified, fire status (out, monitoring, etc.), rehabilitation needed or completed, reports completed (fire, performance ratings, time, etc.).

# ORDERING SMOKEJUMPERS

***SUPPRESSION*** – Currently all smokejumper bases have an availability web site that is linked to the Northern Rockies web site or at www.nifc.gov/smokejumpers/smjrpt.php that shows availability of smokejumpers that is update usually twice a day. The availability changes on an hourly bases. Do not let the current availability of jumpers determine if you place an order. Smokejumpers are highly mobile and can often jump from other bases and ordering volume dictates the need for boosters to be brought in from other regions. Initial attack orders can originate with any of the following; the unit FMO or dispatcher, fire scene personnel in need of reinforcements, and recon or air tactical supervisor, however all request need to then be routed through normal dispatch channels.

Once the jumpers are on the ground, they are considered to be local unit firefighters. Initial attack is often the highest priority set by coordinators for jumpers. However, with assurance that jumpers will be released after one or two shifts, coordinators and dispatchers may allow the use of jumpers on extended attack fires even when the demand for initial attack resources is high. This strategy can sometimes make the difference between catching an escaped fire and having a project fire.

***PRESCRIBED FIRE*** – Requests for prescribed fire assignments are currently coordinated thru the smokejumper Fuels and Projects Manager. The minimum numbers of jumpers needed for suppression standby is identified daily by coordinators, dispatchers, and jumper operations. All remaining jumpers are available for prescribed fire and other projects. Orders are currently honored on a first serve basis with priority given to prescribed fire.

- **SUPPRESSION SEASON** – Their first priority is to suppression but jumpers are available for prescribed fire when suppression is less of a priority.
- **OFF SEASON** – During the off-season jumpers are available for prescribed fire assignments. Off tour jumpers are often available for prescribed fire planning and implementation (or other project work opportunities). Several options for employment are possible including; details for jumpers with seasonal appointments, separate employment for temporary jumpers, and seasonal prescribed fire appointments that do not overlap suppression season. Off tour jumpers will need funding and for most out of area locations per diem must be provided.

## *PLACING AN ORDER*

Listed below are the dispatch centers and phone numbers that each permanent R1 Smokejumper base is assigned and dispatched from. If you are a neighbor you can order directly from them, if not the order will go to the Northern Rockies Coordination Center and they will send it to the appropriate Dispatch Center.

- **SUPPRESSION & PRESCRIBED FIRE** – Phone numbers for dispatchers.
  **Missoula** – Missoula Dispatch Center……..(406) 829-7070

**Grangeville** – Clear/Nez Dispatch Center…….(208) 983-4060
**West Yellowstone** – Bozeman Dispatch Center……...(406) 587-6719

- **PROJECT WORK** – Phone numbers for jumper operations.
  Missoula – Fuels and Projects Manager……..(406) 829-6945
  Grangeville – Smokejumper Operations……..(208) 983-5141
  West Yellowstone (summer)……(406) 646-7691
  (winter)……..(406) 587-6716

# AIRCRAFT CAPABILITIES

***AIRCRAFT PERFORMANCE*** – The Smokejumper Aircraft Screening and Evaluation Board (SASEB) is responsible for determining if the flight envelope and other characteristics of aircraft are appropriate for smoke jumping. The table below shows aircraft currently on SASEB list. The numbers are typical and may be adjusted either up or down depending on density altitude limitations, fuel loads, payloads, runway lengths, and particular aircraft characteristics.

| Aircraft | Cruise Speed | Cruise Speed | Range (statute miles) | Aerial Firefighters | Point-Point Firefighters |
|---|---|---|---|---|---|
| | ( kts) | (mph) | | | |
| Turbine DC - 3 | 190 | 220 | 1000 | 12 – 18 | 20 |
| Sherpa | 170 | 170 | 600 | 10 | 12 |
| Twin Otter | 150 | 170 | 500 | 8 | 10 |
| Casa 212 | 170 | 195 | 500 | 10 | 12 |
| Dornier | 191 | 220 | 750 | 8 | 10 |

***AIRPORT REQUIREMENTS*** – The information on page 16 was excerpted from Northern Rockies Mobilization Guide Appendices. Categories have been established in the guide to assist managers with planning passenger shuttles, smokejumper retrieval, smokejumper pre-positioning, etc. Specific operations must be planned on a case-by-case basis. The pilot is always the final authority.

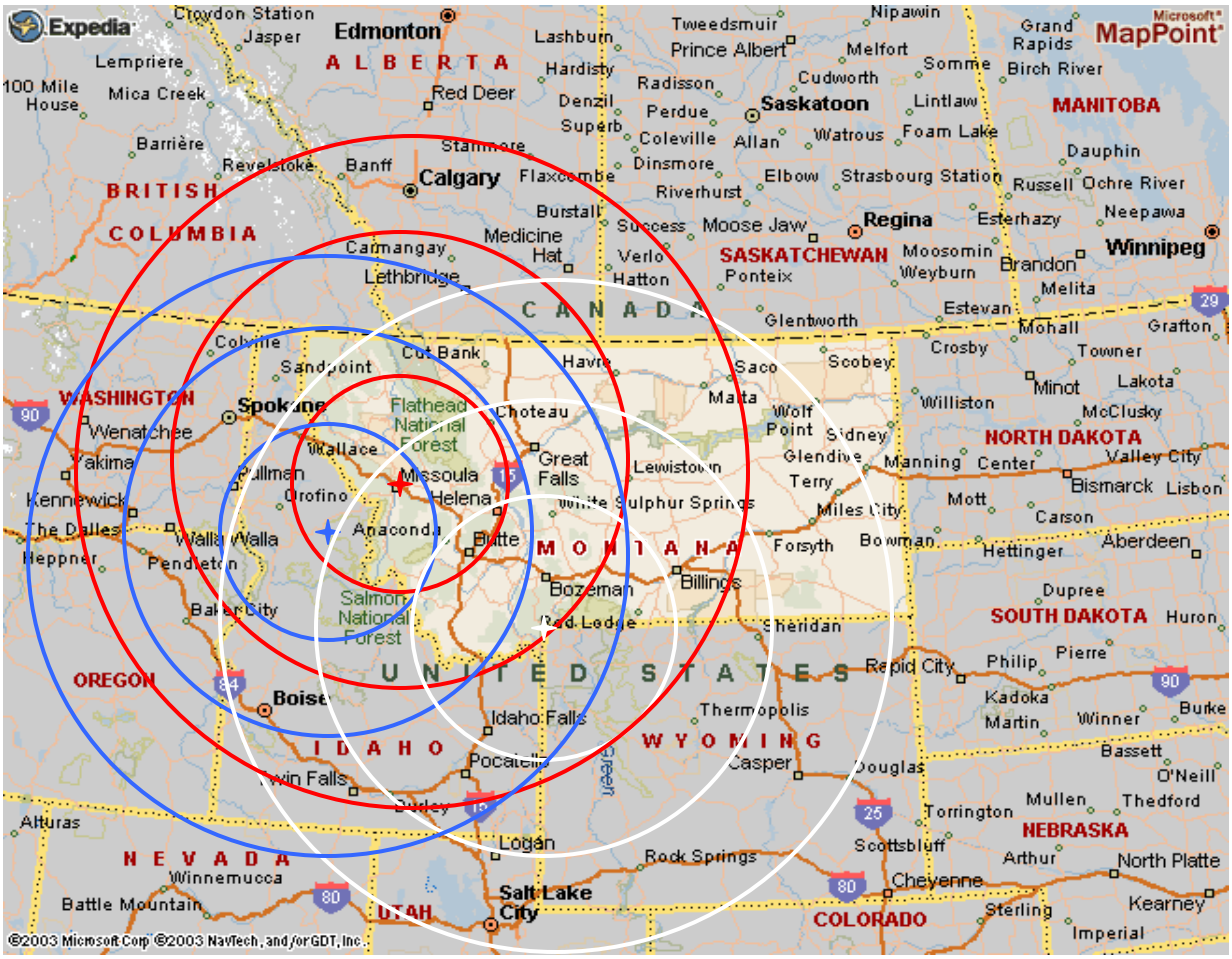
- **CATEGORY I AIRPORTS** – Major airports suitable for all smokejumper aircraft.
- **CATEGORY II AIRPORTS** – Small community airports suitable for all smokejumper aircraft.
- **CATEGORY III AIRSTRIPS** – Generally unpaved and intermittently maintained airstrips. May be private airstrips or Forest Service owned. May require pilot to have backcountry airstrip qualification. Generally suitable for all smokejumper aircraft.
- **CATEGORY IV AIRSTRIPS** – Airstrips considered hazardous and/or demand exceptional aircraft performance. Specific pilot checkout is required. Smokejumper aircraft are limited to the Twin Otter. DC – 3 is authorized for Moose Creek, Idaho airstrip.

# NORTHERN ROCKIES AIRPORTS BY CATEGORY

| Category I | Category II | Category III | Category IV |
|---|---|---|---|
| Billings, MT | Afton, WY | Alpine, WY | Dixie, ID |
| Bismarck, ND | Anaconda, MT | Ashland, MT | Fish Lake, ID |
| Boise, ID | Arco, ID | Augusta, MT | Howe, ID |
| Bozeman, MT | Baker, MT | Boulder, MT | Mackay Bar, ID |
| Butte, MT | Bear Lake, ID | Browning, MT | May, ID |
| Casper, WY | Big Piney, WY | Buffalo, SD | Moose Creek, ID |
| Cody, WY | Big Timber, MT | Cavanaugh Bay, ID | Running Creek, ID |
| Coeur d'Alene, ID | Bonners Ferry, ID | Cottonwood, ID | Shearer, ID |
| Cut Bank, MT | Bottineau, ND | Craigmont, ID | Shoshone, WY |
| Dickinson, ND | Bowman, ND | Ekalaka, MT | Benchmark, MT |
| Glasgow, MT | Bridger, MT | Ennis, MT | Condon, MT |
| Glendive, MT | Broadus, MT | Ferndale, MT | Elk City, ID |
| Great Falls, MT | Buffalo, WY | Fort Belknap, MT | Kamiah, ID |
| Greybull, WY | Buhl, ID | Gardiner, MT | Meadow Creek, MT |
| Harve, MT | Burley, ID | Henry's Lake, ID | Ninemile, MT |
| Helena, MT | Challis, ID | Hot Springs, MT | Schafer, MT |
| Idaho Falls, ID | Choteau, MT | Lakeview, MT | Spotted Bear, MT |
| Jackson Hole, WY | Colstrip, MT | Leadore, ID | Wilson Bar, Id |
| Kalispell, MT | Deer Lodge, MT | Lincoln, MT | Cayuse Creek, ID |
| Lander, WY | Dell, MT | Mackay, ID | |
| Lewiston, ID | Dillon, MT | Magee, MT | |
| Lewistown, MT | Driggs, ID | Metzel Creek, MT | |
| Livingston, MT | Dubois, ID | Orofino, ID | |
| Miles City, MT | Eureka, MT | Oxbow, MT | |
| Missoula, MT | Forsyth, MT | Plains, MT | |
| Moscow, ID | Grangeville, ID | Porthill, ID | |
| Pocatello, ID | Hamilton, MT | Priest Lake, ID | |
| Rapid City, SD | Hardin, MT | Ronan, MT | |
| Riverton, WY | Harlem, MT | Slate Creek, ID | |
| Sheridan, WY | Harlowtown, MT | Stevensville, MT | |
| West Yellowstone MT | Jordan, MT | Sullivan Lake, ID | |
| Williston, ND | Kellogg, ID | Superior, MT | |
| Worland, WY | Lemmon, SD | Troy, MT | |
| | Libby, MT | Whitefish, MT | |
| | Libson, ND | Whitehall, MT | |
| | Lovell, WY | Wisdom, MT | |
| | Malad City, ID | Wise River, MT | |
| | McCall, ID | | |
| | Mud Lake, ID | | |
| | Pinedale, ID | | |
| | Phillipsberg, MT | | |
| | Polson, MT | | |
| | Priest River, ID | | |
| | Red Lodge, MT | | |
| | Sandpoint, ID | | |
| | Salmon, ID | | |
| | Soda Springs, ID | | |
| | St. Anthony, ID | | |
| | St. Ignatius, MT | | |
| | St. Maries, ID | | |
| | Stanford, MT | | |
| | Thompson Falls, MT | | |
| | Three Forks, MT | | |
| | Townsend, MT | | |
| | Twin Bridges, MT | | |
| | Walford City, ND | | |
| | White Sulfur, MT | | |
| | Wolf Point | | |

***SMOKEJUMPER RESPONSE TIMES*** – Response times are based on several factors:

- **BASE LOCATION** – Established bases are located where they can serve a large area. A high occurrence of initial fire starts in roadless areas and project workload are also considerations. At small airports, approximately 10 to 15 minutes are required to get airborne. At larger airports the time to get airborne is generally 15 to 20 minutes due to aircraft traffic and taxi time.
- **PRE-POSITIONING** – Jumpers can be pre-positioned at spike bases to reduce response times when the area to be served is too far from an established base. Jumpers can be pre-positioned for one day or an extended period of time.
- **ACTIVATION DURING PROJECT WORK** – Jumpers work on non-suppression projects throughout the Northern Rockies area. When suppression becomes the priority, they can easily be activated by meeting the aircraft at the nearest suitable airport or airstrip.
- **FLIGHT TIME** – Flight times are compared on the map shown below. Circles represent aircraft located at the current permanent smokejumper bases. Circles show one half hour one-hour and one and a half hours cruise flight for the Dornier, Turbine DC-3, Sherpa and Twin Otter aircraft.




***SPOTTER COMMUNICATIONS CHECKLIST***

**JUMP REQUEST** – Info needed from sending dispatch:

| | |
|---|---|
| | Fire Name or Number |
| | Fire Location (lat & long and/or radial and distance from airport) |
| | Dispatch Frequency |
| | Air to Air Frequency (call signs of other aircraft, ETA's, and status of military routes |

**AFTER TAKE-OFF** – Given to sending dispatch:

| | |
|---|---|
| | Jump Ship Call Sign |
| | Time of Take Off |
| | Number of Jumpers on Board |
| | Destination and Estimated Time En Route |

**FLIGHT FOLLOWING** – Given to dispatchers every 15 minutes:

| | |
|---|---|
| | Jump Ship Call Sign |
| | Destination |
| | Current Location |
| | Check out with dispatcher when contact is made with next. |

**ADDITIONAL FIRE INFO** – Obtained from requesting dispatch en route to fire:

| | |
|---|---|
| | Ground Contact and Frequency |
| | Fire Info (size, fuel type, fire behavior, and personnel needed) |
| | Strategy and suppression objectives |
| | Management Concerns |

**TEN MINUTES OUT –** Provided to other aircraft at fire (obtain clearance before entering)

| | |
|---|---|
| | ETA |
| | Altitude |
| | Altimeter Setting |
| | Approach Direction |

**ARRIVAL AT FIRE**

| | |
|---|---|
| | Reports Arrival |
| | Confirms Fire Location |
| | Gives Brief Size-Up (fire size, fire behavior, etc). |
| | Obtains Strategy (makes tactical recommendations). |
| | Confirms numbers of jumpers to be dropped and who will be IC |
| | Obtains priorities for retardant and bucket drops (may assist IC identify targets not visible to IC) |
| | Works with other aircraft to establish clearance to jump |
| | May assist ground forces determine the best road access |

**SPOTTER MISSION COMPLETION** – After the jump:

| | |
|---|---|
| | Give Dispatch the name of the Jumper-in-Charge (ICS qualifications) |
| | Give Dispatch the number of Jumpers dropped (and number of jumpers remaining on board). |
| | Ensure Jumper-in-Charge have contact (either with dispatch or overhead on fire) |
| | Request Further Assignments – can take an "in air jump request" and respond to other fires. |
| | May contact dispatcher or FMO by phone after returning to base for de-briefing. |

# *JUMPER IN CHARGE (OR IC) COMMUNICATIONS CHECKLIST*

**INITIAL FIRE SIZE UP –** Keep dispatch appraised:

| | |
|---|---|
| | Fire Behavior (head, flanks and base; smoldering, creeping, running, torching, crowning or spotting). |
| | Estimated Size (acres and/or chains) |
| | Fuel Types (continuous, broken, patchy; grass, reprod, timber, downfall, slash, snag, log, duff) |
| | Adjacent Fuel Types |
| | Resources Needs – Retardant, personnel, etc. |
| | Estimated Time of Control |
| | Other (as needed – wind speed and direction, position on slope, aspect, percent slope, or elevation) |
| | Establish check in times. |

**DURING ASSIGNMENT –** Keep dispatch appraised:

| | |
|---|---|
| | On significant changes in fire behavior |
| | Containment time |
| | Control time |
| | Tactical needs – retardant, personnel, etc. |
| | Logistical needs |
| | Request spot weather forecasts |
| | Request fire behavior estimates |

**DEMOBILIZATION -** Keep dispatch appraised:

| | |
|---|---|
| | Estimated time of departure |
| | Estimated time of arrival at trailhead |
| | Gear weight and bulk (for helicopter or vehicle loads). |
| | Determine who will sign fireman's report |
| | Determine who will sign timesheet |
| | Determine who will provide performance evaluation |

**FIRE DEBRIEFING CHECKLIST** – De-briefing with FMO or dispatch:

| | |
|---|---|
| | Communications (information flow between fire and dispatch smooth, clear, timely and cooperative?) |
| | Resources (adequacy of force, assignments made) |
| | Logistics (supplies, food, water and equipment) |
| | Information Requests (weather reports, spot weather forecasts, fuel moistures, fire behavior estimates) |
| | Tactics (appropriate and effective) |
| | Safety (hazards, PPE, LCES, 10 Standard Orders, 18 Situations) |
| | Demobilization (released at appropriate time, fire status, reports complete) |

# R-1 SMOKEJUMPER QUALIFICATIONS

## *MISSOULA*

**Crew Qualifications:**

| | |
|---|---|
| 10 ICT3, 9 Trainees | 15 STCR, 13 Trainees |
| 29 ICT4 | 32 CRWB, 4 Trainees |
| 30 ICT5 | 35 FALC |
| 1 ATGS, 6 Trainees | 27 FALB |
| 7 FOBS, 9 Trainees | 17 EMTB |
| 12 DIVS, 6 Trainees | 10 TFLD, 5 Trainees |
| 4 RXB2, 6 Trainees | 9 FLEB |

## *WEST YELLOWSTONE*

**Crew Qualifications:**

| | |
|---|---|
| 3 ICT3 | 1 FOBS, 2 Trainees |
| 7 ICT4, 4 Trainees | 1 RXB2 Trainee |
| 2 DIVS | 10 FALB |
| 2 STLD, 3 Trainees | 4 FALC |
| 2 TFLD, 1 Trainee | 1 FELB |
| 1 ATGS Trainee | 2 EMTB |

## *GRANGEVILLE*

**Crew Qualifications**:

| | |
|---|---|
| 5 @ ICT3, 2 Trainees | 7 @ STLC |
| 12 @ ICT4 | 16 @CRWB |
| 10 @ ICT5 | 15 @ FALC |
| 1 ATGS, 3 Trainees | 8 @ C X-CUT, 2 Certifiers |
| 5 @ FOBS, 8 Trainees | 6 @ EMT or OEC First Aid Qualified |
| 4 @ DIVS | 1@ FEMO |
| 7 @ RXB2 | 2 @ FELB |